

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Unibersity of Georgia Research Joundation, Inc.

MICITALS, THERE HAS BEEN PRESENTED TO THE

### **Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE SOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT VIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Cut'N'Graze'

In Testimony Macrest, I have hereunto set my hand and caused the seal of the Munt Mariety Arctection Office to be affixed at the City of Washington, D.C. this twenty-eighth day of June in the year of our Lord one thousand nine hundred and ninety-six.

Musha I. Stan to Commissioner Plant Variety Protection Office

, HMMM Secretary of Agriculture

|   |   | <del>`</del>  |                |   |
|---|---|---|----------------|---|
| U.S. DEPARTMENT<br>AGRICULTURAL MA<br>SCIENCE   | RKETING SERVICE                             |   |                | Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. |
| APPLICATION FOR PLANT VAR   | IETY PROTECT<br>NS ON REVERSE)              | TION CERTIFICATE  |                | 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).                              |
| 1. NAME OF APPLICANT(S) (as it is to appear on the Certificate  | a)  | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. GA_ALO_S, ADOLLO_S |                | VARIETY NAME  |
| University of Georgia Research Foundation   | , Inc.                                      | ABI 9240, GA-APS  |                | CUT'N'GRAZE   |
| 4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)   |   | 5. PHONE (include area code                                     | · -            | FOR OFFICIAL USE ONLY   |
| Room 630 Graduate Studies Building<br>University of Georgia   |   |   | 120            | 9400180   |
| Athens, GA 30602  |   | •   |                | Date  |
| 114.415, 41 3500Z   |   |   | ] F            | May 16, 1994  |
| 6. GENUS AND SPECIES NAME   | 7. FAMILY NAME (B)                          | otenical)   | <u> </u>       |   |
| Medicago ŝativa L.  | Leguminosae                                 |   | F              | Filing and Examination Fee:   |
| 8. CROP KIND NAME (Common Name)   |   | 9. DATE OF DETERMINATIO   | N E            | : 2, 325.00   |
| Alfalfa   |   | 1988  | s              | Date  |
| 10. IF THE APPLICANT NAMED IS NOT A *PERSON,* GIVE FOR  | M OF ORGANIZATION                           |   | - Ĉ            | Certificate Fee:  |
| association, etc.)  Corporation   |   |   | E              | \$ 700 W  |
| 11. IF INCORPORATED, GIVE STATE OF INCORPORATION  |   | 12. DATE OF INCORPORATIO  | N E            | Date  |
| Georgia   |   | Nov. 17, 1978   | "              | 5-7-96  |
| 13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S),  | IF ANY, TO SERVE II                         | I THIS APPLICATION AND RECEI                                    | VE ALL PAP     | ERS   |
| Janice Kimpel   |   |   |                |   |
| University of Georgia Research Foundation   | n. Inc.                                     |   |                |   |
| Room 630 Graduate Studies Building  |   |   |                |   |
| University of Georgia, Athens, GA 30602   |   | <b>5</b> 44 <b>5</b> 44 <b>5</b> 47                             | 706-54         | 42–5929   |
| 14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBI  | ATTED (Follow INSTR                         | PHONE (include area code):                                      |                |   |
| a. A Exhibit A, Origin and Breeding History of the Variet b. Exhibit B, Novelty Statement   | Y   |   |                |   |
| c. 🖾 Exhibit C, Objective Description of Variety  |   |   | ÷              |   |
| d. Exhibit D, Additional Description of Variety e. Exhibit E, Statement of the Basis of Applicant's Ow                              | marchia                                     |   |                |   |
| <ol> <li>Seed Sample (2,500 viable untreated seeds). Date</li> </ol>  | Seed Sample mailed t                        | to Plant Variety Protection Office                              | 5/11/          | 94  |
| g. X. Filing and Examination Fee (\$2,325) made payable   |   |   |                |   |
| 15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VAI<br>Plant Variety Protection Act) YES (If "YES," answer if                   | RIETY BE SOLD BY VI<br>Iems 16 and 17 belov | VRIETY NAME ONLY AS A CLASS<br>v)                               |                | •   |
| 16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE  | 17. IF "Y                                   | ES" TO ITEM 16, WHICH CLASS                                     | ES OF PRO      | OUCTION BEYOND BREEDER SEED?  |
| LIMITED AS TO NUMBER OF GENERATIONS?  |   | ☐ FOUNDATION ☐ R  | EGISTERED      | ☐ CERTIFIED   |
| 18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTIO  | N OF THE VARIETY IN                         | _   |                |   |
| ☐ YES (If "YES," through ☐ Plant Variety Protection ☐ NO  |   | nt Act. Give date:  |                |   |
| 19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR  | SALE, OR MARKETE                            | D IN THE U.S. OR OTHER COUNT                                    | TRIES?         |   |
| TYES (If "YES," GIVE NAMES OF COUNTRIES AND DA  | TES)  |   | •              |   |
| <ol> <li>The applicant(s) declare(s) that a viable sample of basic seeds<br/>such regulations as may be applicable.</li> </ol>      | of this variety will be                     | furnished with the application and                              | l will be rept | enished upon request in accordance with   |
|   | • .   |   |                |   |
| The undersigned applicant(s) is (are) the owner(s) of this sexual in section 41, and is entitled to protection under the provisions | lly reproduced novel p                      | lant variety, and believe(s) that the                           | e variety is o | listinct, uniform, and stable as required   |
| Applicant(s) is (are) informed that false representation herein   |   | -   | -              |   |
| SIGNATURE OF APPLICANT [Owner(s)]   |   |   |                | DATE  |
|   |   | CAPACITY OR TITLE   |                |   |
| Cho Lyon In In I was  |   | Executive   |                | M 0 1004  |
| Joe L. Key  |   | Vice President  |                | May 9, 1994   |
| SIGNATURE OF APPLICANT [Owner(s)]   | []  | CAPACITY OR TITLE   | ÷              | DATE  |
|   |   |   |                |   |

#### **ALFALFA**

#### 'CUT'N'GRAZE'

14A. Exhibit A:

Pedigree:

CUT'N'GRAZE is a synthetic variety with 90 parent clones. The parents were selected from the variety Apollo (100%) after screening for grazing survival under intense grazing pressure with continuous stocking by beef cattle for two summers. Germplasm sources are M. falcata (10%), Ladak (12%), M. varia (34%), Turkistan (5%), Flemish (6%), Chilean (19%), and Unknown (14%).

CUT'N'GRAZE appeared stable and uniform when its flower color was compared between the Syn 2 and Syn 3 generations. There were no flower color variants when 100 flowers from each generation were examined.

### 14B. Exhibit B. Novelty Statement

CUT'N'GRAZE is most similar to 'Jubilee' and 'Mercury'. According to the originator of Jubilee, Cal/West Seeds, Jubilee is an obsolete variety and no seed are available for comparison purposes (see attached letter). However, CUT'N'GRAZE would differ from Jubilee in possessing a lower percentage of purple flowers and higher Verticillium wilt resistance and a different fall dormancy rating (e.g. Jubilee possesses dormancy most like 'Saranac', while CUT'N'GRAZE possesses dormancy most like 'Ranger'). When compared to Mercury, CUT'N'GRAZE was found to possess a lower resistance to Southern root knot nematode and not to produce the small percentage of white colored flowers found with Mercury (see attached tables).

\* in certificate records

MAS 4/10/96

Table 1. Southern root knot nematode resistance between CUT'N'GRAZE and Mercury and resistant (Moapa 69) and susceptible (Lahontan) checks.

|             | % Resistance | ASI |
|-------------|--------------|-----|
| Lahontan    | 2            | 2.6 |
| Moapa 69    | 50           | 1.6 |
| CUT'N'GRAZE | 18           | 2.2 |
| Mercury     | 40           | 1.8 |
| Test mean   | 31           | 2.0 |
| C. V. (%)   | 13.2         | 4.4 |
| LSD (0.05)  | 6.0          | 0.1 |

Table 2. Flower color scores between CUT'N'GRAZE and Mercury.

| Color  | CUT'  | N'GRAZE | Mercu | ry  |
|--|-------|---------|-------|-----|
|  | (No.) | (%)     | (No.) | (%) |
| Purple and Violet (Subclasses 1.1 to 1.4)                        | 102   | 84      | 98    | 82  |
| Variegated and Other Than Blue (Subclasses 2.1, 2.2, 2.5 to 2.9) | 0     | 0       | 0     | 0   |
| Cream (Class 3)  | 0     | 0       | 0     | 0.  |
| Blue (Subclasses 2.3 and 2.4)                                    | 20    | 16      | 20    | 17  |
| Yellow (Subclasses 4.1 to 4.4)                                   | 0     | 0       | 0     | 0   |
| White (Class 5)  | 0 .   | 0       | 1     | 1   |

# U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE COMMODITIES SATEMATICS REPORT DIVISION BELTSVILLE, MARYLAND 20705

## OBJECTIVE DESCRIPTION OF VARIETY

|  |  | ALFALFA                      | ( <i>Medicago sativa</i> se           | nsu Gunn et al.)  |                                     |                    |                                       |  |
|--|--|------------------------------|---------------------------------------|---|-------------------------------------|--------------------|---------------------------------------|--|
| NAME OF APPLICANT(S)   |  |                              | TEMPORARY                             | DESIGNATION   | VARIETY NAME                        |                    |                                       |  |
| University of Georgi   | a Research Fou   | ndation. Inc                 | GA-APO-                               | S, Apollo-S,  |                                     |                    |                                       |  |
| <u> </u>   |  | -                            | ABI 924                               | O, GA-APS   | CUI'N'GRAZ                          | CUI'N'GRAZE        |                                       |  |
| ROOM 630 Graduate St   | o. No., City, State, and .<br>udies Building             | Zip Code)                    |                                       |   |                                     | OR OFFICIAL USE OF | NLY                                   |  |
| University of Georgi   |  |                              | 4                                     |   | PVPO NUMBER                         |                    |                                       |  |
| Athens, GA 30602   |  |                              |                                       |   |                                     | 94001              | 9 N                                   |  |
| PLEASE READ ALL INSTRUC  | TIONS CAREFULL   | Y: Place numbers in th       | he boxes to designat                  | e the expressions whi   | ch are characteristic               | of she             | C.                                    |  |
| application variety. Data for qu<br>titative data. Comparative data<br>e.g., The Munsell Plant Tissue Co | should be determined                                     | iciers should be based       | Of a minimum of 14                    | OO nlante Includa la  | . dina 2222b.a                      | / [6] 6            | 7 6 7                                 |  |
| 1. WINTERHARDINESS:  |  |                              |                                       |   |                                     |                    |                                       |  |
| 7 CLASS:   | 1 = Very Non-Winterha                                    |                              | _                                     |   |                                     |                    |                                       |  |
|  | 3 = Intermediately Nor<br>5 = (Du Puits)<br>7 = (Ranger) | -Winterhardy (Mesilla)       | 4 = Semi-Winter                       | nardy (Moapa 69)<br>hardy (Lahontan)<br>Winterhardy (Saranac)<br>(Vernal) |                                     |                    |                                       |  |
|  | 9 = Extremely Winterh                                    |                              |                                       | (15.11.0.)  |                                     |                    |                                       |  |
| (  | TEST LOCATION:   | Lake City, M                 | L                                     |   | _                                   |                    |                                       |  |
| 2. FALL DORMANCY:  |  |                              |                                       |   |                                     |                    |                                       |  |
| z. TALL DOMMANCT.  | F  | ALL DORMANCY (D              | ETERMINED FROM                        | M SPACED PLANTI   | NGS)                                |                    |                                       |  |
|  |  |                              |                                       | REGROWTH SCORE (  | OR AVERAGE HEIGH                    | T T                | T                                     |  |
| TESTING INSTITUTION AND LOCATION   | DATE OF<br>LAST CUT                                      | DATE REGROWTH<br>SCORED      | APPLICATION                           |   | CHECK VARIETIE                      | s*                 | LSD .05                               |  |
| ,  |  |                              | VARIETY                               | Saranac   | Ranger                              | Vernal             |                                       |  |
| St. Paul, MN   | 9/89   | 10/89                        | 7.13                                  | 6.49  | 7.17                                | 7.53               | 0.83                                  |  |
|  |  |                              |                                       |   |                                     |                    |                                       |  |
|  | 1  |                              |                                       |   |                                     |                    |                                       |  |
| CUF 101, Moapa 69, Mesilla, Lahor  | itan, Du Puits, Saranac,                                 | Ranger, Vernal, or Norse     | man as appropriate.                   | ···· <u></u>  | <u> </u>                            |                    |                                       |  |
| pecify scoring system used: Fall   | dormancy scor  | ed 0-9 with 0=1              | 8" or higher,                         | 1=16-18", 2=1   | 4-16", 3=12-1                       | 4", 4=10-12",      | 5=8-10",                              |  |
| 7 Fall Growth Habit (Dete  | 8",7=4-6",8=<br>rmined from Fall Dorm                    | Z-4", 9=0-2"<br>ancy Triats) |                                       |   |                                     |                    | <del></del>                           |  |
| 1  | = Erect (CUF 101)<br>' = Semidecumbent (Ve               | 3 = Semi                     | ierect (Mesilla)<br>Imbent (Norseman) | 5 = Intermediate  | (Saranac)                           |                    |                                       |  |
| RECOVERY AFTER FIRST SPRI  | NG CUT (In Southwest,                                    | first cut after March 21):   |                                       | ······································                                    |                                     |                    | · · · · · · · · · · · · · · · · · · · |  |
|  | ost (CUF 101)<br>ow (Norseman)                           | 3 = Fast                     | (Saranac)                             | 5 = Intermediate  | (Ranger)                            | 7 = Slow (Vernal)  |                                       |  |
| TEST LOC   | ATION:   |                              | · · · · · · · · · · · · · · · · · · · |   |                                     |                    |                                       |  |
| AREAS OF ADAPTATION IN U.S.  | (Where tested and prov                                   | en adanted).                 |                                       | <del></del>   |                                     |                    |                                       |  |
| 2 Primary Area of Adaptati   |  | en adapteo):                 |                                       | 1 7 Othe  | r Areas of Adaptation               |                    |                                       |  |
|  |  |                              |                                       |   |                                     | 16. 1              |                                       |  |
| 1 = North C  | entral   | 2 ≈ East Central             | 2 - 5                                 |   | ζ,                                  | Atrica             | 200                                   |  |
| 5 = Moderat  | ely Winterhardy Interm                                   |                              | 3 = Sout<br>6 = Winterhardy Inter     |   | l = Southwest 5<br>/ = Great Plains |                    | 2                                     |  |
| 8 = Other (S   | pecify)  |                              |                                       | <u> </u>  |                                     | MAT Y              |                                       |  |
|  |  |                              |                                       |   | 4 -                                 |                    | Q 3                                   |  |
| •  |  | •                            |                                       |   |                                     | - X                | V                                     |  |
|  |  |                              |                                       |   |                                     |                    |                                       |  |
|  |  |                              |                                       |   |                                     |                    |                                       |  |
| FLOWERING DATE (When 10% of  |  | vers at time of first spring | cut):                                 |   |                                     |                    |                                       |  |
| Days Earlier Than  | 🔟  |                              |                                       |   |                                     |                    |                                       |  |
| Same As  |  | 1 - CUF 1                    | 01 2                                  | ≖ Mesilla 3   | = Saranac 4 =                       | Vernal 5 ≠ N       | orseman                               |  |
| Days Later Than  |  |                              |                                       |   |                                     |                    | •                                     |  |
|  | TEST LOCATION: -   | <u> </u>                     |                                       |   |                                     |                    |                                       |  |
| RM LS-470-32 (4-85) (Edition of 4-1  | 32 may be used.)   |                              |                                       |   |                                     |                    | PAGE LOE E                            |  |

| Arc (R1)   64.2   Laboratory   | 6. PLANT COLOR (Determined             | from healthy regrowth 3 w  | eeks after first sp  | ring cut, controlling  | leafhoppers if necessar  | y);                                   |  |  |
|--|--|--|--|--|--|---------------------------------------|--|--|
| APPLICATION VARIETY VERTIAL VERTIAL VERTIAL VERTICACATION  7. CROSSING Types:  1 - Board (Vertical)  2 - intermediate (Sarrane)  3 - Norwe (CUE 101)  Cestoding Types:  4 - Copping Rocal diseasements  5 - Ribbonston (Ribbons)  5 - Ribbonston (Ribbons)  5 - Ribbonston (Ribbons)  5 - Norwe (CUE 101)  5 - Proper and Violat (Baldesine 1, 1 to 1.0)  3 - Verripped of Violat (Baldesine 1, 1 to 1.0)  3 - Verripped of Violat (Baldesine 1, 1 to 1.0)  3 - Verripped of Violat (Baldesine 1, 1 to 1.0)  3 - Verripped of Violat (Baldesine 1, 1 to 1.0)  3 - Proper and Violat (Baldesine 1, 1 to 1.0)  3 - Proper and Violat (Baldesine 1, 1 to 1.0)  4 - Proper and Violat (Baldesine 1, 1 to 1.0)  5 - Proper and Violat (Baldesine 1, 1 to 1.0)   |  |  |  |  | <del>-</del>   | -                                     |  |  |
| Test   Control   |  |  |  |  |  |                                       |  |  |
| TEST COATION   Types: 4 - Crossing Rocal (Readers)   2 - Intermediate (Suransc)   3 - Retriev (CUF 101)  |  |  |  |  |  |                                       |  | <u>/</u>   |
| Noncincipility   1 - Proof of Control (Control of Control of Con   |  |  |  |  |  |                                       |  | <u> </u>   |
| A - Costing Types  |  |  |  |  |  |                                       |  |  |
| 8. PLOWER COLOR (Convenient Frequency of plants for each color class as defined by USDA Applicational Nanothook No. 424 (Barnes 1972), altowing all plants in plant to Remeril:    S   8   8   8   9   9   9   8   8   8   1   1   1   1   1   1   1   | Noncreeping Ty                         | pes: 1 = Broad (V  | /ernal)  | 2 = Intermediate (S  | aranac) ;  | 3 = Narrow (CU                        | F 101)                                 |  |
| S   B   W Purple and Violet (Subcloses 21, 12, 14)   9   9   8   Blue (Subcloses 24, 12, 15 to 2.8)   9   9   8   Blue (Subcloses 24, 12, 22, 25 to 2.8)   9   9   8   Blue (Subcloses 24, 10   8.4)   9   9   8   Blue (Subcloses 24, 10   8.4)   9   9   9   8   Blue (Subcloses 24, 10   8.4)   9   9   9   8   Blue (Subcloses 24, 10   8.4)   9   9   9   8   Blue (Subcloses 24, 10   8.4)   9   9   9   9   9   9   9   9   9   | Creeping Types:                        | 4 = Creeping   | Rooted (Rangela  | ander)   | 5 = Rhizomatous  | (Rhizoma)                             |  |  |
| **S. POD SMAPE (Determine frequency of plants with the following and shapes processed on well compositionated reasonable (Determine frequency of plants with the following and shapes processed on well compositionated reasonable)  **S. BOSANDE (Determine frequency of plants with the following and shapes processed on well compositionated reasonable)  **S. BOSANDE (Determine frequency of plants with the following and shapes processed on well composition follows are composition for the secondary of the following and shapes of the processed on the following and the following from the USD A Field Crops Laboratory (1964, 2014).  **A DISEASE RESISTANCE:**  **DISEASE RESISTANCE:**  **A PRICE OF A Laboratory of the processed on the following from the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory of the USD A Field Crops Laboratory (1964, 2014).  **A PRICE OF A Laboratory (1964, 2014).  **A PRICE OF A Labo | 1 8 8                                  |  |  | defined by USDA A  | 0  |                                       |  | Il plants in plot to flower):  |
| TEST LOCATION: Athens, Georgia  1. POD SAME (Charmins froquency of plants with the following pod shapes produced on well cross-collitanted resemble)  1. O. O. W. Tighty Colled (One or more coils, center complexically open)  TEST LOCATION: Athens, Georgia  1. PEST RESISTANCE: Provide in the appropriate actiums, trial date for application swirely, and resistant (R) and susceptible (S) sheets worked, synthesic generation natural, entered by the control of sea, and whether test a relief or his control of sea, and sea, or his control of sea, and whether test and season of th | 3 % Variegated Ot                      | her Than Blue (Subclasses 2  | 2.1, 2.2, 2.5 to 2.  | 9)   | % Yellow (Sub  | classes 4.1 to 4.                     | .4)                                    |  |
| S. POD SHAPE (Determine frequency of plants with the following pod shapes produced on wall cross-pollinated recembal:      0   0   % Tightly Colled (One or more colls, center more or less closed)  | 1 1 1 1                                | •  |  |  | % White (Class   | 5)                                    |  |  |
| Sickle (Last than 1 coil)   % Taylity Coiled (One or more coils, center more or less classes)   % Lassely Coiled (One or more coils, center complicationly open)   TEST LOCATION: Affile S. GEOFT (13 and suspensible (S) check which were in the paymorphis coilings, titled for application energy, and related (R) and suspensible (S) check which were in the paymorphis coilings, titled for application energy, and related (R) and suspensible (S) check which were in the control (ASI), less significant (S) control (S) contro   | TEST LOCATIO                           | <sub>on:</sub> <u>Athens, G</u>  | eorgia   |  |  | _ <del>_</del>                        |  |  |
| TEST LOCATION: Athens, Georgia  10. PEST RESISTANCE: Provide in the appropriate column, trial data for application variety, and resistant (R) and suspeptible (D) does were variety, and resistant (R). Best significant difference statistics (LSD G6), the institution in charge of the variety and variety revolution. Charge is activated as the data of biotectory evaluation. Describe according resistant, and suspense december as Exhibit D. D. Search according to the data of t | 1 0 0                                  |  |  |  |  |                                       | re coils, center con                   | spicuously open)   |
| 10. PEST RESISTANCE:   Percent   P   | % Sickle (Less th                      | an 1 coit)   |  |  |  |                                       | -                                      |  |
| Indicated (ASI), set tight depticant difference statistics (LSD ASI), the institution in charge of text, year, and whether text is a finite of laboratory and continuous control of the co | 10. PEST RESISTANCE: Provid            | e in the appropriate column  | n, trial data for ap   | plication variety, and   | d resistant (R) and sus  | ceptible (S) che                      | ck varieties, synthe                   | stic generation tested, average severity                                 |
| DISEASE   VARIETY   SYN.GEN.   RESISTANT   PLANTS TESTED   ASI   ASI   LSD.66   INSTITUTION, YEAR, LOCATION   FIELD OR LABORATORY  | evalua<br>locatio<br>Seeds (<br>20705: | tion. Describe scoring systems in should be presented when the check varieties and get. Although comparisons with the check varieties and get. | em, and any test p<br>enever available o<br>ermplasm lines lis | procedure which diffe<br>n a seperate document<br>ted below can be obt | ers from standard meth<br>nt as Exhibit D,<br>tained from the USDA | hods proposed b                       | oy Elgin (1982). T<br>boratory Bide 00 | rial data from other test years or  1. Rm. 335. BARC-West. Beltsville MD |
| Anthracnose, Race 1   Application   2   26.9   ABI, 1993, Napier, If Laboratory  | A. DISEASE RESISTANCE:                 |  | SYN GEN  |  | NUMBER OF  |                                       | 451                                    | INICTITUTION VEAR LOCATION   |
| Collectotrichum trilolii    Application   2   26.9   ABI, 1993, Napier, If Laboratory  | DISEASE                                | VARIETY  |  |  |  | ASI                                   |  | FIELD OR LABORATORY  |
| Saranac (S)   0.0  |  | Application  | 2  | 26.9   |  |                                       |  | ABI, 1993, Napier, IA  |
| SCORING SYSTEM:  |  | Arc (R)  |  | 64.2   |  |                                       | •                                      | Laboratory   |
| Anthracnose, Race 2 (Collectotrichum trifolii)  Saranac AR (R)  Are (S)  SCORING SYSTEM:  Bacterial Wift (Corynebacterium insidiosum)  Vernal (R)  Narragansett (S)  SCORING SYSTEM:  Common Leafspot (Pasudopezize mediceginis)  Application  MSA-CW3AN3 (R)  Ranger (S)  SCORING SYSTEM:   |  | Saranac (S)  |  | 0.0  |  |                                       |  |  |
| Application      |  | SCORING SYSTEM:  | -  |  | <del></del>  |                                       |  |  |
| Seranac AR (R)   |  | Application  |  |  |  |                                       |  |  |
| SCORING SYSTEM:  |  | Saranac AR (R)   |  |  |  |                                       |  |  |
| SCORING SYSTEM:  |  |  |  |  |  |                                       |  |  |
| Bacterial Wilt (Corynebacterium insidiosum)  |  | Arc (S)  |  |  |  |                                       |  |  |
| Application   1   48,17   2.01   0.68   Univ. of Minnesota (USDA-ARS),1989, St. Paul, MN Field   |  | SCORING SYSTEM:  |  |  |  | <u> </u>                              |  |  |
| 1  | Bacterial Wilt                         |  |  |  |  | · · · · · · · · · · · · · · · · · · · |  |  |
| Narragansett (S)   2.47   3.93   St. Paul, MN Field  | (Corynebacterium insidiosum)           | Application  | 1  | 48,17  |  | 2.01                                  | 0.68                                   | Univ. of Minnesota   |
| Narragansett (S)  SCORING SYSTEM:  Common Leafspot (Pseudopeziza medicaginis)  Application  MSA-CW3AN3 (R)  Ranger (S)  SCORING SYSTEM:  |  | Vernal (R)   |  | 44.31  |  | 2.33                                  |  |  |
| Common Leafspot (Pseudopeziza medicaginis)  Application  MSA-CW3AN3 (R)  Ranger (S)  SCORING SYSTEM:   |  | Narragansett (S)   |  |  |  | 2.33                                  |  | St. Paul, MN Field   |
| Common Leafspot (Pseudopeziza medicaginis)  Application  MSA-CW3AN3 (R)  Ranger (S)  SCORING SYSTEM:   |  |  |  | 2.47   |  | 3.93                                  |  | <u> </u>   |
| (Pseudopeziza medicaginis) Application MSA-CW3AN3 (R) Ranger (S) SCORING SYSTEM:   |  | SCORING SYSTEM:  |  |  |  |                                       |  |  |
| Ranger (S) SCORING SYSTEM:   | ·                                      | Application  |  |  |  |                                       |  |  |
| SCORING SYSTEM:  |  | MSA-CW3AN3 (R)   |  |  |  |                                       |  |  |
|  |  | Ranger (S)   |  |  |  |                                       |  |  |
|  | .7. s                                  | SCORING SYSTEM:  |  |  | <u> </u>   |                                       |  | <u></u>  |
|  | EOOM (2 470 37 (4.85)                  |  |  |  |  |                                       |  | PAGE 2 OF  |

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| DISEASE  | VARIETY                 | SYN. GEI<br>TESTEL  |                        | AL NOWRES OF                                    |              | ASI<br>LSD .05 | INSTITUTION, YEAR, LOCATIO                       |
|--|-------------------------|---------------------|------------------------|---|--------------|----------------|--|
| Downy Mildew (Peronospora trifoliorum)                               | Application             |                     |                        |   |              |                |  |
| Isolate, if known:   | Saranac (R)             |                     |                        |   |              | -              |  |
|  | Kanza (S)               |                     |                        |   |              |                |  |
|  | SCORING SYSTEM          | l:<br>              |                        |   |              | <del></del>    |  |
| Fusarium Wift<br>(Fusarium oxysporum<br>f. medicaginis)              | Application             | 2                   | 48.1                   |   |              |                | ABI 1993, Napier,                                |
|  | мжжиски А               | gate (HR)           | 48.1                   |   |              |                | IA, Field  |
|  | Маружжаний              |                     | 7.5                    |   |              |                |  |
|  | SCORING SYSTEM:         |                     |                        |   |              |                |  |
| Phytophthora Root Rot<br>(Phytophthora megasperma<br>1. medicaginis) | Application             | 1                   | 57.1                   |   | 2.83         | 0.69           | Univ. of Minnesota                               |
|  | Agate (R)               |                     | 48.2                   |   | 3.05         |                | (USDA-ARS) 1989,<br>St. Paul, MN                 |
|  | Saranac (S)             |                     | 5.5                    |   | 4.54         |                | Field  |
|  | SCORING SYSTEM:         |                     |                        |   |              |                |  |
| Verticillium Wilt<br>(Verticillium alboatrum)                        | Application             | 2                   | 18.6                   |   |              |                | ABI, 1993 Napier,                                |
|  | Vertus (R)              |                     | 47.4                   |   |              |                | IA Laboratory                                    |
|  | Saranac (S)             |                     | 4.1                    |   |              |                |  |
|  | SCORING SYSTEM:         |                     |                        |   |              |                |  |
| Other (Specify) phanomyces Root Rot                                  | Application             | 2                   | 11.8                   |   |              |                | ABI, 1993 NAPIER,                                |
| ohanomyces euteiches   | (R) WAPH-1              |                     | 53.1                   |   |              | •              | IA Laboratory                                    |
|  | (s) Agate               |                     | 0.0                    |   |              |                |  |
|  | SCORING SYSTEM:         |                     |                        |   | <del> </del> |                |  |
| Other (Specify)<br>Rhizoctonia Root Rot                              | Application             | 1                   | 36.0                   |   |              |                | Cornell Univ., 1990                              |
| Rhizoctonia solani   | <sup>(R)</sup> Mn. 3290 |                     | 23.0                   |   |              |                | Ithaca, NY<br>Laboratory                         |
|  | <sup>(s)</sup> Kanza    |                     | 3.0                    |   |              |                | Laboracory                                       |
|  | SCORING SYSTEM:         |                     |                        |   |              |                |  |
| INSECT RESISTANCE:   | VARIETY                 | SYN. GEN.<br>TESTED | PERCENT<br>DEFOLIATION | DEFOLIATION IN<br>PERCENT OF<br>RESISTANT CHECK | ASI          | ASI<br>LSD .05 | INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY |
| Alfalfa Weavil<br>(Hypera postica)                                   | Application             |                     |                        | oneux   |              | <del></del>    |  |
|  | Are (R)                 |                     |                        | 100   |              |                |  |
|  | Saranac (S)             |                     |                        |   |              |                |  |
| s  | CORING SYSTEM:          | <u> </u>            |                        |   |              |                |  |

| 10. B. INSECT RESISTANCE                        | (Continued):    |        | ·<br>·              | <del></del>                                   |                                  |   |  | <u> </u>   |  |
|---|-----------------|--------|---------------------|---|----------------------------------|---|--|--|--|
| INSECT  | VARIE           | TY     | SYN, GEN.<br>TESTED | PERCENT<br>SEEDLING<br>SURVIVAL               | NUMBER OF<br>SEEDLINGS<br>TESTED | ASI   | ASI<br>LSD .05                               | INSTITUTION, YEAR, LOCATION<br>FIELD OR LABORATORY |  |
| Blue Alfalfa Aphid<br>(Acyrthosiphon kondoi)    | Application     |        | 2                   | 6.0   |                                  | 4.1   | 0.24   | Crop Characteristics                               |  |
|   | CUF 101 (R)     |        | -                   | 44.0  |                                  | 3.2   |  | 1993, Northfield, M<br>Laboratory                  |  |
|   | KKKKKK (        | Calive | rde(S)              | 3.0   |                                  | 4.0   |  |  |  |
|   | SCORING SYS     | STEM:  |                     |   |                                  | · · · · · · · · · · · · · · · · · · ·             |  |  |  |
| Pea Aphid<br>(Acyrthosiphan pisum)              | Application     |        | 2                   | 32.0  |                                  | 4.0   | 0.45   | Crop Characteristics                               |  |
|   | KRXXIBI ]       | Baker  | (R)                 | 40.0  |                                  | 3.8   |  | 1993, Northfield, MN<br>Laboratory                 |  |
|   | ZEKSEGER        | Vernal | (S)                 | 2.0   |                                  | 5.0   |  |  |  |
|   | SCORING SYS     | тем:   |                     |   |                                  | <del>• • • • • • • • • • • • • • • • • • • </del> |  |  |  |
| Spotted Alfalfa Aphid<br>(Therioaphis maculata) | Application     |        | -                   |   |                                  |   |  |  |  |
| Biotype, if known:                              | Kanza (R)       |        |                     |   |                                  |   |  |  |  |
|   | Ranger (S)      |        |                     |   |                                  |   | ,  |  |  |
|   | SCORING SYS     | тем:   |                     |   | !                                |   | J  |  |  |
| INSECT  | VARIET          | Υ      | SYN. GEN.<br>TESTED | PERCENT<br>RESISTANT<br>PLANTS                | NUMBER OF<br>PLANTS TESTED       | ASI   | ASI<br>LSD .05                               | INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY    |  |
| Potato Leafhopper Yellowing (Empoasca fabae)    | Application     |        |                     |   |                                  |   |  |  |  |
|   | MSA-CW3An3      | (R)    |                     |   |                                  |   |  |  |  |
|   | Ranger (S)      |        |                     | <i>y · .</i>                                  |                                  |   |  |  |  |
|   | SCORING SYST    | ГЕМ:   |                     |   |                                  |   | <u>].</u>                                    |  |  |
| Other (Specify)                                 | Application     |        |                     |   |                                  |   |  |  |  |
|   | (R)             |        |                     | ***   |                                  |   |  |  |  |
|   | (S)             |        |                     |   |                                  |   |  |  |  |
|   | SCORING SYST    | EM:    |                     |   | <u> </u>                         |   | <u>.                                    </u> |  |  |
| NEMATODE RESISTANCE:                            | VARIETY         | ,      | SYN. GEN.<br>TESTED | PERCENT<br>RESISTANT                          | NUMBER OF PLANTS TESTED          | ASI   | ASI<br>LSD .05                               | INSTITUTION, YEAR, LOCATION<br>FIELD OR LABORATORY |  |
| Northern Root Knot<br>(Meloidogyne hapla)       | Application     |        |                     | PLANTS  |                                  |   |  |  |  |
|   | Nev. Syn. XX (R | 1)     |                     | <u>-</u>                                      |                                  |   |  |  |  |
|   | Lahontan (S)    |        |                     | <u> </u>                                      |                                  | - A. A.   |  |  |  |
|   | SCORING SYSTE   | EM:    |                     | <u>,, , , , , , , , , , , , , , , , , , ,</u> | 1 <u></u>                        |   |  | <u> </u>   |  |

| NEMATODE                                      | VARIETY         | SYN. GEN.<br>TESTED | PERCENT<br>RESISTANT<br>PLANTS | NUMBER OF<br>PLANTS TESTED | ASI | ASI<br>LSD .05 | INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY |
|---|-----------------|---------------------|--------------------------------|----------------------------|-----|----------------|---|
| Southern Root Knot<br>(Meloidogyne incognita) | Application     | 3                   | 18.0                           |                            | 2.2 | 0.13           | Crop Characteristics                            |
| Моара Є                                       | Moapa 69 (R)    |                     | 50.0                           |                            | 1.6 |                | 1995, Northfield, M<br>Laboratory               |
|   | Lahontan (S)    |                     | 2.0                            |                            | 2.6 |                |   |
|   | SCORING SYSTEM: |                     |                                | <u> </u>                   |     |                |   |
| Stem Nematode<br>(Ditylenchus dipsaci)        | Application     | 2                   | 23.0                           |                            | 3.6 | 0.40           | Crop Characteristics                            |
|   | Kanakanan Ver   | nema (R)            | 51.0                           |                            | 3.0 |                | 1993 Northfield, MN,<br>Laboratory              |
|   | Ranger (S)      |                     | 12.0                           |                            | 3.8 |                |   |
|   | SCORING SYSTEM: |                     |                                | <u> </u>                   |     |                |   |
| Other (Specify)                               | Application     |                     |                                |                            |     | <u> </u>       |   |
|   | (8)             | !                   |                                |                            |     |                |   |
|   | (S)             |                     |                                |                            |     |                |   |
|   | SCORING SYSTEM: |                     |                                |                            |     |                |   |

| CHARACTER              | VARIETY | CHARACTER                   | VARIETY  |
|------------------------|---------|-----------------------------|----------|
| Winterhardiness        | Apollo  | Plant Color                 |          |
| Recovery After 1st Cut | Apollo  | Crown Type                  | Apollo   |
| Area of Adaptation     | Apollo  | Combined Disease Resistance | 'Aercury |
| Flowering Date         |         | Combined Insect Resistance  | Mercury  |

#### REFERENCES

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Gunn, C.R., W.H. Skrdla, and H.C. Spencer. 1978. Classification of Medicago sativa L. using legume characters and flower colors. U.S. Dep. Agric. Tech. Bull. 1574. 84 pp.

Munsell Color Co., 1977. Munsell Plant Tissue Color Charts. Munsell Color Co., Inc. Baltimore.

NOTE: Any additional descriptive information and supporting documentation may be provided as Exhibit D.

John William Control

University of Georgia Research Foundation, Inc.
PVP Certificate Application No.

"CUT'N'GRAZE"

# EXHIBIT - E THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC. STATEMENT OF APPLICANT'S OWNERSHIP

The variety for which plant variety protection is hereby sought was developed by Dr. Joseph H. Bouton, Samuel Ray Smith, Jr., and Edward Charles Brummer, employees at The University of Georgia Agricultural Experiment Station. The Georgia Agricultural Experiment Station is a part of The University of Georgia. The University of Georgia is one of the universities of the University System of Georgia. The Board of Regents of the University System of Georgia ("Board of Regents") is a body that was created by the Constitution of the State of Georgia and is charged with the responsibility of operating the universities in the University System of Georgia. The University of Georgia Research Foundation, Inc. is a Georgia nonprofit corporation which was incorporated to, among other things, own and exploit intellectual property developed or created at The University of Georgia. On June 9, 1982, the Board of Regents approved a Patent Policy regarding inventions and discoveries by persons employed at The University of Georgia. As an employee at the Georgia Agricultural Experiment Station, Dr. Joseph H. Bouton, Samuel Ray Smith, Jr., and Edward Charles Brummer are subject to said Patent Policy. Rights in novel plant varieties developed at The University of Georgia, including CUT'N'GRAZE, are covered by said Patent Policy. By agreement, the Board of Regents assigned to the University of Georgia Research Foundation, Inc. all rights in intellectual property covered by said Patent Policy. This agreement applies to then existing intellectual property and to intellectual property which was developed thereafter.